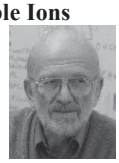
SUNDAY, JUNE 1

5:00 – 6:30 pm
TUTORIAL LECTURES
Korbel Ballroom 2-3

5:00 pm **Interactions of Ions with Surfaces**

Julia Laskin, *Pacific NW National Laboratory*

5:45 pm **Metastable Ions**



R. Graham Cooks, *Purdue University*

6:45 – 7:45 pm
CONFERENCE OPENING AND PLENARY LECTURE
Wells Fargo Theatre

6:45 pm Welcome to the 56th ASMS Conference on Mass Spectrometry

Barbara S. Larsen, President, ASMS
Presentation of the Thermo Scientific Research Award
Presentation of the Waters Corp. Research Award
Presentation of the ASMS Research Award

7:00 pm **Improbable Research, Spectrometric and Otherwise**

Marc Abrahams, *Annals of Improbable Research*

7:45 – 9:30 pm
WELCOME RECEPTION IN THE EXHIBIT HALL

MONDAY MORNING, JUNE 2

8:30 – 10:30 am
LABEL FREE QUANTITATION OF PROTEINS
Wells Fargo Theatre
Chair: Arthur Moseley

MOA am 08:30 **Workflow Checkpoints in Label-Free Quantitative Proteomics: An Applied Biomarker Investigation for Renal Cell Carcinoma from Tissue Interstitial Fluid**; Susan E. Abbatiello[1]; Jennifer Nina Sutton [2]; Brian L. Hood [1]; Thomas P. Conrads [1]; *[1]University of Pittsburgh Cancer Institute, Pittsburgh, PA; [2]Thermo Fisher Scientific, Cambridge, MA*

MOA am 08:50 **Differential Analysis and Annotation of the CHO Cytosolic Proteome using a Label-Free LC-MS Strategy**; Leo E. Bonilla[2]; Christopher Farnsworth[2]; Allison Bianchi[1]; Wen Yu[2]; Kimberly Lee[2]; Christopher Russell[2]; *[1]Amgen, Seattle, WA; [2]Molecular Sciences-Amgen, Seattle, WA*

MOA am 09:10 **Absolute Quantification Based on Ion Accounting: Technical Considerations and Biological Implications**; J. Will Thompson[1]; Scott Geromanos[2]; Martha Stapels[2]; Wenle Xia[1]; Niel Spector[1]; Michael Forrester[1]; Arthur Moseley[1]; *[1]Duke University School of Medicine, Durham, NC; [2]Waters Corporation, Milford, MA*

MOA am 09:30 **A Refined Label-Free Method for Quantitative Proteomic Genetic Linkage Analysis**; Eric Foss[3]; Dragan Radulovic[2]; Scott A. Shaffer[1]; Antonio Bedalov[3]; David R. Goodlett[1]; *[1]University of Washington, Seattle, WA; [2]Florida Atlantic University, Boca Raton, FL; [3]Fred Hutchinson Cancer Research Center, Seattle, WA*

MOA am 09:50 **Proteome-Wide Accurate Label-Free Quantitation of Cell Lines and Tissues**; Juergen Cox; Christian Luber; Boris Macek; Ana Velic; Matthias Mann; *Max-Planck-Institute of Biochemistry, Martinsried, Germany*

MOA am 10:10 **Absolute and Relative Quantitation of Proteins in Mouse and Rat Brains**; Martha D. Stapels[1]; Chelsea Piper[2]; An Zhou[2]; *[1]Waters Corporation, Milford, MA; [2]Legacy Research, Portland, OR*

8:30 – 10:30 am
FUNDAMENTALS OF ION/ION REACTIONS
Korbel Ballroom 1
Chair: Yu Xia

MOB am 08:30 **Gas-Phase Bio-Ion/Ion Reactions: The Hows and Whys of Reagent Selection**; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

MOB am 08:50 **Theoretical Study of ETD/ECD Mechanisms**; Jack Simons; *Univ. of Utah, Salt Lake City, UT*

MOB am 09:10 **Charge State Dependence of Proton Transfer Versus Electron Transfer in a Gas-Phase Ion/Ion Electron Transfer Dissociation Process on Tryptic Peptides**; Jian Liu; Teng-Yi Huang; Scott A. Mcluckey; *Purdue University, West Lafayette, IN*

MOB am 09:30 **Crown-Ether Alkane-1,n-Diammonium Complexes. Electron Capture, Femtosecond Electron Transfer and Theory**; Anne S. I. Holm[2]; Mikkel K. Larsen[2]; Subhasis Panja[2]; Preben Hvelplund[2]; Steen Brondsted Nielsen[2]; Ryan D. Leib[3]; William A. Donald[3]; Evan R.

Williams [3]; Chan; [1]*University of Washington, Seattle, WA;* [2]*University of Aarhus, Aarhus, Denmark;* [3]*University of California, Berkeley, CA*

MOB am 09:50 **Ion/Ion Reactions Between Chelators and Nucleic Acid Substrates Induce Gas-Phase Transfer of Metal Ions**; Kevin B. Turner; Sarah A. Monti; Daniele Fabris; *University of Maryland Baltimore County, Baltimore, MD*

MOB am 10:10 **How to Maximize the ETD MS-MS Duty Cycle for Shotgun Proteomics**; Jason D. Russell; Danielle L. Swaney; Joshua J. Coon; *University of Wisconsin, Madison, WI*

8:30 – 10:30 am
DEVELOPMENTS IN ION MOBILITY: INSTRUMENTATION, THEORY, AND APPLICATIONS
Korbel Ballroom 2-3
Chair: Facundo Fernandez

MOC am 08:30 **Overview of Ion Mobility Mass Spectrometry Applications and Instrumentation**; Herbert H Hill; Prabha Dwivedi; Bill Siems, *Washington State Universtiy, Pullman, WA*

MOC am 08:50 **New Structural Measurement Strategies using Ion Mobility-Mass Spectrometry**; John A. McLean; Larissa S. Fenn; Randi Gant; Thomas J. Kerr; Ablatt Mahsut; Sevugarajan Sundarapandian; *Vanderbilt University, Nashville, TN*

MOC am 09:10 **A Cryogenic Ion Mobility-Mass Spectrometer: Theory and Applications**; Jody C. May; Kent J. Gillig; David H. Russell; *Texas A&M University, College Station, TX*

MOC am 09:30 **Fundamentals of Collisional Heating and Dipole Alignment of Macromolecular Ions in FAIMS and Implications for Differential Mobility Analyses (DMA)**; Alexandre A. Shvartsburg[1]; Ridha Mabrouki [1]; Errol W. Robinson [1]; Erin S. Baker [1]; Sergei Y. Noskov[2]; Keqi Tang [1]; Richard D. Smith [1]; [1]*USDoE PNNL, Richland, WA;* [2]*University of Calgary, Calgary , Alberta, Canada*

MOC am 09:50 **Design and Operation of a New High Resolution Ion Mobility Mass Spectrometer**; Nicholas Dupuis; Paul Kemper; Michael T. Bowers; *University of California Santa Barbara, Santa Barbara, CA*

MOC am 10:10 **Signal to Noise Ratio Gains in Digitally-Multiplexed Atmospheric Pressure Drift Tube Ion Mobility Spectrometry;** Mark Kwasnik; Facundo Fernandez; Joe Caramore; *Georgia Institute of Technology, Atlanta, GA*

8:30 – 10:30 am
CHALLENGES IN ELEMENTAL ANALYSIS USING MASS SPECTROMETRY
Korbel Ballroom 4
Chair: Joe Caruso

MOD am 08:30 **Elemental Analysis of Laboratory and Ambient Organic Aerosols using Electron Ionization Mass Spectrometry**; Allison C. Aiken[1]; Peter F. DeCarlo[2]; Jesse H. Kroll[3]; Douglas R. Worsnop[3]; Kenneth Docherty[1]; Ingrid M. Ulbrich[1]; Edward Dunlea[1]; Claudia Mohr[2]; J. Alex Huffma; [1]*University of Colorado at Boulder, Boulder, CO;* [2]*Paul Scherrer Institut, Villigen, Switzerland;* [3]*Aerodyne Research Inc., Billerica, MA;* [4]*State University of New York, Albany, NY;* [5]*University of Calif*

MOD am 08:50 **Off-Line Coupling of Capillary Electrophoresis to Laser Ablation Inductively Coupled Plasma Mass Spectrometry for Elemental Speciation**; Jan Preisler; Ondrej Peš; Pavla Foltynová; Radek Vyhnánek; Tomáš Vaculovic; Viktor Kanický; *Masaryk University, Brno, Czech Republic*

MOD am 09:10 **An Investigation of Xenon as a Universal ICP-MS Collision Cell Gas via Sulfur Optimization with Application to Bottled Water Contaminants**; Scott E. Afton; Joseph A. Caruso; *University of Cincinnati, Cincinnati, OH*

MOD am 09:30 **Collision/Reaction Cell ICP-MS with Shielded Torch and High Resolution ICP-MS for the Determination of Selenium Isotope Ratios in Different Matrices**; Khalid A. Al-Saad[1]; Mohammed A. Amr[1]; Abdulfatah I. Helal[2]; Nagwa F. Zahran[2]; [1]*Central Laboratories Unit, Qatar University, Doha, QATAR;* [2]*Atomic Energy Authority 13759, Cairo, Egypt*

MOD am 09:50 **Characterization of an Inductively Coupled Plasma/Electrospray Ionization Dual-Source Time-of-Flight Mass Spectrometer for Metallomic and Speciation Analysis**; Duane A. Rogers; Steven Ray; Gary M. Hieftje; *Indiana University, Bloomington, IN*

MOD am 10:10 **Imaging Mass Spectrometry By LA-ICP-MS In Life Sciences**; Sabine Johanna, Dr. Becker; *Research Centre Juelich, Germany*

8:30 – 10:30 am
DISCOVERING PEPTIDE BIOMARKERS
Four Seasons Ballroom 1-2
Chair: Tim Griffin

MOE am 08:30 **Class II MHC Restricted Phosphopeptides as Cancer Immunotherapeutics or Diagnostics**; Jie Qian[1]; Florence A. Depontieu[2]; Angela L. Zarling[1]; Andrew Norris [1]; Dina Bai[1]; Victor H. Engelhard[1]; Suzanne Topalian[2]; Jeffrey Shabanowitz [1]; [1]*University of Virginia, Charlottesville, VA;* [2]*Johns Hopkins School of Medicine, Baltimore, MD*

MOE am 08:50 **Novel Mass Spectrometric Immunoassay for the Structural Characterization of C-Peptide within Healthy and Diabetes Mellitus Type 2 Populations**; Paul E. Oran; Jason W. Jarvis; Chad Borges; Randall Nelson; *Arizona State University, Tempe, AZ*

MOE am 09:10 **Neuropeptidomic Approaches for Specific and Sensitive Identification of Endogenous Peptides**; Maria Fälth[1]; Anna Nilsson[1]; Karl Skold[1]; Marcus Svensson[1]; Mats Boren[2]; David Fenyo[3]; Malin Andersson[1]; Per Svenningsson[4]; Per E. Andren[1] [1]*Uppsala University, Uppsala, Sweden;* [2]*Denator, Uppsala, Sweden;* [3]*The Rockefeller University, New York, NY;* [4]*Karolinska Institutet, Stockholm, Sweden*

MOE am 09:30 **Development of Independent Urinary Biomarker Panels for Differential Diagnosis and Evaluation of ANCA-Associated Vasculitis Disease Activity**; David Good [1]; Marion Haubitz[2]; Harald Mischak[4]; Joshua J. Coon [3]; [1]*Univeristy of Wisconsin, Madison, WI;* [2]*Medizinische Hochschule Hannover, Hannover, Germany;* [3]*University of Wisconsin-madi, Madison, WI;* [4]*Mosaiques Diagnostics, Hannover, Germany*

MOE am 09:50 **Designed by Mass Spectrometry: Structural Reporter Peptides for the Early Diagnosis of**

Invasive Aspergillosis; Teresa Hong; Khue Truong; Diana Diaz Arevalo; Karine Bagramyan; Joesph M. Lyons; James I. Ito; Markus Kalkum; *City of Hope, Duarte, CA*

MOE am 10:10 **Isoform Distribution and Reduced Levels of Apolipoprotein C1 in Persons with a T45S Polymorphism: Determined by MALDI-TOF Profiles**; Stephen B. Harvey[1]; Matthew Stone[1]; Raj Kasthuri[1]; Gary Nelsestuen[1]; Kenneth McMillian[2]; *[1]University of Minnesota, Minneapolis, MN; [2]American Indian Community Development Corp., Minneapolis, MN*

8:30 – 10:30 am
ENDOGENOUS METABOLITE PROFILING
Four Seasons Ballroom 3-4
Chair: Joshua D. Rabinowitz

MOF am 08:30 **LC-MS Approach for Comprehensive Metabolomics Analysis**; Kara Pearson[1]; Yutai Li[1]; Amy F. Loughlin[1]; Caroline K Ferraro[1]; Qiuwei xu[1]; Ethan Xu[1]; Peter Askovich[2]; Andrey Bondarenko[2]; Eric Minch[1]; Jeffrey; *[1]Merck & Co., Inc., West Point, PA; [2]Rosetta Biosoftware, Seattle, WA*

MOF am 08:50 **Absolute Quantitation of Intracellular Metabolites in *Escherichia coli***; Bryson D. Bennett; Elizabeth Kimball; Joshua D. Rabinowitz; *Princeton Univeristy, Princeton, NJ*

MOF am 09:10 **The Effects of Drought and Heat Stress Combination on Arabidopsis Plants: A Metabolomics Analysis**; Vladimir Shulaev [1]; Donna L. Wilson[2]; Anne Ferguson [2]; *[1]Va Bioinformatics Inst., Blacksburg, VA; [2]Thermo Fisher, San Jose, CA*

MOF am 09:30 **Biochemical Mapping of Metabolic Alterations in Lungs of Rat Embryos**; Oliver Fiehn; Dinesh Kumar; Gert Wohlgemuth; Jesse Joad; Carol Hood; Kent Pinkerton; Tobias Kind; *UC Davis, Davis, CA*

MOF am 09:50 **Using Metabolomics of Animal Models to Understand Complex Human Biochemistry and Disease**; William Wikoff; Howard Fox; Gary Siuzdak; *The Scripps Research Intitute, San Diego, CA*

MOF am 10:10 **Metabolite Profiles for Phenotyping: Lipidomics of Healthy Twins**; Thomas Hankemeier[1]; Harmen HM Draisma[1]; Jacqueline J Meulman[1]; Ivana Bobeldijk-Pastorova[2]; Dorret I Boomsma[3]; Jan van der Greef[1]; *[1]Leiden University, Leiden, Netherlands; [2]TNO Quality of Life, Zeist, Netherlands; [3]Free University, Amsterdam, The Netherlands*

8:30 – 10:30 am
MS CHARACTERIZATION OF CARBOHYDRATES
Rooms 601-607
Chair: Ron Orlando

MOG am 08:30 **Quantitation of Glycans for Disease Marker Discovery in Breast Cancer**; Carlito Lebrilla[1]; Hyun Joo An [1]; Nannan Tao [1]; Scott Kronewitter [1]; Maria Lorna De Leoz[1]; Jaehan Kim[1]; Helen Chew[2]; Suzanne Miyamoto [2]; Kit Lam[2]; *[1]University of California, Davis, CA; [2]Uc Davis Cancer Center, Sacramento, CA; [3]Agilent Technologies, Santa Clara, CA*

MOG am 08:50 **Targeted Glycomics from High Energy CID MALDI-MS-MS to Nanospray-Based Total Ion Mapping and MS^n Analysis**; Sz-Wei Wu[1]; Chia-Wei Lin[2]; Shui-Hua Wang[2]; Kay-Hooi Khoo[1]; *[1]Inst Biol Chem, Academia Sinica, Taipei, Taiwan; [2]Inst Biochemical Sciences, Natl Taiwan U, Taipei, Taiwan*

MOG am 09:10 **Ion-Mobility Separation Coupled with Negative Ion Fragmentation of N-Linked Carbohydrates**; David J. Harvey[1]; James Scrivens[2]; Richard Holland[3]; Jonathan Williams [3]; Mark R Wormald[1]; *[1]University of Oxford, Oxford, UK; [2]Univ of Warwick, Coventry, UK; [3]University of Warwick, Coventry, United Kingdom*

MOG am 09:30 **A Glycomics Approach for Characterization of Bacterial Lipopolysaccharides**; Chow Ming Tsai; Miznur Rahman; Ewa Jankowska; John F Cipollo; *Food and Drug Administration CBER, Bethesda, MD*

MOG am 09:50 **Tandem Mass Spectrometry Analysis of Glycosaminoglycan Oligosaccharides using EID, EDD, and IRMPD**; Jeremy Wolff[1]; Tatiana Laremore[2]; Robert J. Linhardt[2]; Jon Amster[1]; *[1]University of Georgia, Athens, GA; [2]Rensselaer Polytechnic Institute, Troy, NY*

MOG am 10:10 **Mass Spectrometric Analysis of Glycosaminoglycan Domain Structure**; Nancy Leymarie; Alicia M. Hitchcock; Hicham Naimy; Gregory O Staples; Michael J. Bowman; Joseph Zaia; *Boston University, Boston, MA*

MONDAY AFTERNOON

2:30 – 4:30 pm
ADVANCES IN TOP-DOWN PROTEOMICS
Wells Fargo Theatre
Chair: Kathrin Breuker

MOA pm 02:30 **What Can Top-Down Proteomics Do for You?** Fred W. McLafferty[1]; Kathrin Breuker [2]; Honghai Jiang [1]; Mahmud Hossain [1]; *[1]Cornell University, Ithaca, NY; [2]University of Innsbruck, Innsbruck, AUSTRIA*

MOA pm 02:50 **Optimization of Intact Protein Funnel-Skimmer Dissociation for FT-ICR Mass Spectrometry**; Jennifer S. Cobb [1]; Michael L. Easterling[2]; Jeffrey N. Agar[1]; *[1]Brandeis University, Waltham, MA; [2]Bruker Daltonics, Inc., Billerica, MA*

MOA pm 03:10 **Isotopic Resolution MS and MS-MS Analysis of Intact Human Serum Albumin**; Jianzhong Chen [1]; Nathan Kaiser [1]; Hollie Huff[2]; Yvonne Carella[2]; James E. Bruce[1]; *[1]Washington State Universtiy, Pullman, WA; [2]Inverness Medical Innovations, Inc, Louisville, CO*

MOA pm 03:30 **Top Down Disease Proteomics: Deciphering Protein Modifications for Understanding and Diagnosis of Human Diseases**; Ying Ge[1]; Lisa Xu[1]; Inna Rybakova[1]; Vlad Zabrouskov[2]; Richard, L. Moss[1]; Jeffery Walker [1]; *[1]University of Wisconsin, Madison, WI; [2]Thermo Fisher Scientific, San Jose, CA*

MOA pm 03:50 **Top-Down Protein Characterization: Comparison of MALDI-TOFMS versus ESI-FTMS**; Viswanatham Katta; Mary Zhu; Jennifer Zhang; *Genentech, Inc., South San Francisco, CA*

MOA pm 04:10 **Top Down Proteomics: The Teenage Years**; Jonathan T. Ferguson; Craig D. Wenger; John F. Kellie; Haylee M. Thomas; Ji Eun Lee; Shannee Babai; Neil L. Kelleher; *University of Illinois Urbana-Champaign, Urbana, IL*

2:30 – 4:30 pm
SPECTROSCOPY OF GASEOUS IONS
Korbel Ballroom 1
Chair: Rebecca Jockusch

MOB pm 02:30 **IR Spectroscopy of Deprotonated Amino Acid and Peptide Anions**; Jos Oomens; Jeffrey D. Steill; *FOM Rijnhuizen, Nieuwegein, Netherlands*

MOB pm 02:50 **Structure of ECD Fragments from Charge-Tagged Peptides Probed by Tunable IRMPD**; Gilles Frison[1]; Alexander Bull[1]; Guillaume Van Der Rest[1]; Frantisek Turecek [2]; Thierry Besson[3]; Joel Lemaire[3]; Philippe Maitre[3]; Julia Chamot-Rooke[1]; *[1]CNRS - Ecole Polytechnique, Palaiseau, France; [2]University of Washington, Seattle, WA; [3]CNRS - Université Paris Sud Orsay, Orsay, France*

MOB pm 03:10 **Implementation of a Continuous Wave (cw) Optical Parametric Oscillator (OPO) Laser to Obtain Infrared (IR) Spectra of Gaseous Ions**; Wright Pearson; Cesar Contreras; John R. Eyler; *University of Florida, Gainesville, FL*

MOB pm 03:30 **Vibrational and Electronic Spectroscopy of Intermediates of Methane to Methanol Conversion by Transition Metal Oxide Cations**; Gokhan Altinay; Murat Citir; Ricardo Metz; *University of Massachusetts, Amherst, MA*

MOB pm 03:50 **Infrared and Ultraviolet Spectroscopy of Gas-Phase Helical Peptides**; Jaime A. Stearns; Caroline Seaiby; Monia Guidi; Oleg V. Boyarkin; Thomas R. Rizzo; *Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland*

MOB pm 04:10 **Infrared Action Spectroscopy of Hydrated Multiply Charged Ions in the Gas Phase**; Matthew Bush; Richard J. Saykally; Evan R. Williams; *University of California, Berkeley, CA*

2:30 – 4:30 pm
DEVELOPMENTS IN ION TRAPPING INSTRUMENTATION
Korbel Ballroom 2-3
Chair: Peter B. O'Connor

MOC pm 02:30 **Optimized Image Current Detection Geometry for Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Chris Hendrickson[1]; Steve Beu[2]; Alan G. Marshall[1]; *[1]National High Magnetic Field Laboratory, Tallahassee, FL; [2]S C Beu Consulting, Austin, TX*

MOC pm 02:50 **A Dual Reaction Cell, ETD-Enabled Orbitrap Mass Spectrometer for Top-Down Proteomics**; Graeme McAlister[1]; Joshua J. Coon[2]; *[1]The University of Wisconsin, Madison, WI; [2]University of Wisconsin-madi, Madison, WI*

MOC pm 03:10 **How Far Can Ion Trap Miniaturization Go?** Zheng Ouyang; Liang Gao; Jason Harper; Qingyu Song; Wei Xu; R. Graham Cooks; *Purdue University, West Lafayette, IN*

MOC pm 03:30 **A New Mass Independent Inlet for Introducing Massive Ions into Mass Spectrometers without Expansion-Induced Kinetic Energy**; Peter TA Reilly; Hideya Koizumi; William B Whitten; *Oak Ridge National Laboratory, Oak Ridge, TN*

MOC pm 03:50 **Fourier Transform Ion Cyclotron Resonance Mass Spectrometry Instrumentation Design and Development: Reduction of Ion Cloud De-Phasing and Time-of-Flight Discrimination**; Nathan Kaiser; Gunnar E. Skulason; Chad Weisbrod; James E. Bruce; *Washington State Universtiy, Pullman, WA*

MOC pm 04:10 **A Novel, High Sensitivity Cryogenic Fourier Transform Ion Cyclotron Resonance Mass Spectrometer**; Raman Mathur; Cheng Lin; Konstantin Aizikov; Ronald W. Knepper; Peter B. O'connor; *Boston University, Boston, MA*

2:30 – 4:30 pm
EMERGING MASS SPECTROMETRY TECHNIQUES IN ENVIRONMENTAL ANALYSIS
Korbel Ballroom 4
Chair: Jose-Luis Jimenez

MOD pm 02:30 **Real-Time Detection and Identification of Aqueous Chlorine Transformation Products using QTOF-MS**; Brett J. Vanderford; Doug B. Mawhinney; Fernando L. Rosario-Ortiz; Shane A. Snyder; *Southern Nevada Water Authority, Las Vegas, NV*

MOD pm 02:50 **Advances in the Identification of Environmental Degradates using Hybrid-FTMS Combined with ULPC, IRMPD, and Chip-Based Nanospray;** Jesse Balcer; Jeffrey Gilbert; Joelene Smith-Drake; Kurt Graper; Laura Laughlin; Pete Johnson; Mark Krieger; *Dow AgroSciences, Indianapolis, IN*

MOD pm 03:10 **Measurement of Methyl-Polycyclic Aromatic Hydrocarbon Metabolites in Human Urine by Gas Chromatography/High-Resolution Mass Spectrometry**; Lovisa C Romanoff; Zheng J Li; Erin N Porter; Debra A Trinidad; Donald G Patterson; Andreas Sjodin; *Centers for Disease Control and Prevention, Atlanta, GA*

MOD pm 03:30 **Response of Green Algae (Chlamydomonas reinhardtii) to Environmental Stressors, Evaluated by High-Throughput Proteomics;** Marc J.-F. Suter; Holger Nestler; Victor J. Nesatyy; *EAWAG, Duebendorf, Switzerland*

MOD pm 03:50 **Mass Spectrometry of Ambient Nanoparticles**; Murray Johnston; Christopher Zordan; Melissa Reinard; *University of Delaware, Newark, DE*

MOD pm 04:10 **Chemical Ionization Mass Spectrometry Techniques for Measurements of Gas-Phase Ammonia**; John B. Nowak[1]; J. Andrew Neuman[1]; Dave J. Tanner[2]; L. Gregory Huey[2]; Thomas B. Ryerson[3]; Fred C. Fehsenfeld[1]; *[1]University of Colorado, Boulder, CO; [2]Georgia Institute of Technology, Atlanta, GA; [3]NOAA-Earth System Research Laboratory, Boulder, CO*

2:30 – 4:30 pm
THE PARADIGM SHIFT IN CLINICAL DIAGNOSTICS USING MASS SPECTROMETRY
Four Seasons Ballroom 1-2
Chair: Russell Grant

MOE pm 02:30 **Impact of Tandem Mass Spectrometry in Clinical Diagnostics**; Ravinder J. Singh; *Mayo Clinic, Rochester, MN*

MOE pm 02:50 **Neonatal Diagnosis of Metachromatic Leukodystrophy in Dried Blood Spots by Tandem Mass Spectrometry**; Brian J. Wolfe[1]; Ladislav Kuchar[2]; C. Ronald Scott[1]; Michael H. Gelb[1]; Frantisek Turecek[1]; *[1]University of Washington, Seattle, WA; [2]Charles University, Prague, Czech Republic*

MOE pm 03:10 **Label-Free Detection of Enzyme Activities with Self-Assembled Monolayer Desorption Ionization Time-of-Flight Mass Spectrometry (SAMDI-TOF MS);** Steven Patrie; Milan Mrksich; *University of Chicago, Chicago, IL*

MOE pm 03:30 **High-Throughput MRM Quantitative Targeted Proteomics Platform for Influenza Viral Particles**; Christopher M. Colangelo[1]; Erol E. Gulcicek[1]; Peter Palese[2]; Kenneth Williams[1]; Megan L. Shaw[2]; *[1]Yale University, New Haven, CT; [2]Mount Sinai School of Medicine, New York, NY*

MOE pm 03:50 **Top–Down Lipidomics Screens for Assessing Metabolic Risk in Obesity Related Disorders;** Dominik Schwudke[1]; Juergen Graessler[2]; Ronny Herzog[1]; Stefan Bornstein[2]; Andrej Shevchenko[1]; *[1]Max Planck Institute CBG, Dresden; [2]Faculty of Medicine, TU Dresden, Dresden, Germany*

MOE pm 04:10 **Simultaneous High Throughput Detection and Characterization of Broad Groups of Respiratory Viruses by PCR coupled with High Throughout Mass Spectrometry**; Steven A. Hofstadler; Ranga Sampath; Lawrence B. Blyn; Mark Eshoo; Robert Lovari; Feng Li; Javier Fernandez; Heather Matthews; Rachael Melton; Kristin Sannes-Lowery; Jared Drader; James C. Hannis; Lendell L. Cummins; Thomas Hall; David J.; *Ibis Biosciences, Inc., Carlsbad, CA*

2:30 – 4:30 pm
QUANTITATION OF DRUG METABOLITES
Four Seasons Ballroom 3-4
Chair: Kevin Bateman

MOF pm 02:30 **Metabolite Quantification: Why and How;** Philip Tiller[1]; Kevin Bateman[2]; Ronda Rippley[1]; Nancy Agrawal[1]; Kelem Kassahun[1]; Thomas A. Baillie[1]; *[1]Merck & Co., West Point, PA; [2]Merck Frosst, Montreal, QC*

MOF pm 02:50 **Does Microdosing Produce a Metabolic Profile Indicative of a Normal Dose in Rats?**; Carmai Seto[1]; Daniel Lebre[2]; Tanya Gamble[1]; Gary Impey[2]; Takeo Sakuma[1]; Jinsong Ni[3]; Fred Ouyang[3]; Devin Welty[3]; Andrew Acheampong [3]; *[1]MDS Analytical Technologies, Concord, Canada; [2]Applied Biosystems, Concord, Canada; [3]Allergan, Irvine, CA*

MOF pm 03:10 **A Rapid Approach to Quantitative *in vivo* Metabolite Profiling without the Need for Authentic Standards or Labeled Compounds;** Jonathan L. Josephs; Mary F. Grubb; Yanou Yang; William G. Humphreys; *Bristol-Myers Squibb, Hopewell, NJ*

MOF pm 03:30 **Quantification of Metabolites using Chemiluminescent Nitrogen Detection (CLND) and MS-MS**; Laura E. Edwards; Jaleh Abedi; Alan D. Hendricker; Kenneth C. Lewis; *OpAns, LLC, Durham, NC*

MOF pm 03:50 **Quantitative Imaging of Cocaine and Its Metabolites in Postmortem Brain Tissue by Intermediate-Pressure MALDI/Linear Ion Trap Tandem Mass Spectrometry**; Richard F. Reich; Kasia Cudzilo; Richard A. Yost; *University of Florida, Gainesville, FL*

MOF pm 04:10 **Incurred Samples Investigation: "Sudden and Unusual Disappearance of Metabolite and its Stable-Labeled Internal Standard Response during LC-MS-MS GLP Bioanalysis"**; Troy Bradley; Marie-Andrée Mercier; Janick Boivin; Cynthia Coté; Catherine Dicaire; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), QC, Canada*

2:30 – 4:30 pm
CHARACTERIZING PROTEIN-LIGAND INTERACTIONS WITH MASS SPECTROMETRY
Rooms 601-607
Chair: John Klassen

MOG pm 02:30 **Hydrogen / Deuterium Exchange Characterization of Transmembrane Signaling Proteins**; Michael Chalmers[3]; Bruce Pascal[3]; Scott Novick[3]; Scott A. Busby[3]; Mark R Southern[3]; Ellen Chien[1]; Raymond C. Stevens[1]; David Szymkowski[2]; Patrick R. Griffin; *[1]TSRI, La Jolla, CA; [2]Xencor, Monrovia, CA; [3]The Scripps Research Institute - Florida, Jupiter, FL*

MOG pm 02:50 **Hyphenation of Surface Plasmon Resonance Imaging to Mass Spectrometry by On-Chip MALDI MS Analysis**; Sophie Bellon[1]; William Buchmann [2]; Florence Gonnet[2]; Nathalie Jarroux[2]; Philippe Kerouredan[1]; Marielle Anger-Leroy[1]; Regis Daniel[2]; *[1]Genoptics Bio Interactions, Orsay, France; [2]Universite d'Evry, Evry, France*

MOG pm 03:10 **Functional Consequences of Conformational Changes in the ClpP N-Terminus and Ligand-Driven ClpA Hexamer Formation: Structural MS of a Molecular Machine**; Jen Bohon[1]; Laura D. Jennings[2]; Christine M. Phillips[2]; Stuart Licht[2]; Mark R. Chance[1]; *[1]Case Western Reserve University, Upton, NY; [2]Massachusetts Institute of Technology, Cambridge, MA*

MOG pm 03:30 **Ion Mobility-Mass Spectrometry Reveals Subtle Stability Differences in Multi-Protein Complex Ligand Assemblies**; Suk-Joon Hyung; Brandon Ruotolo; Carol Robinson; *Department of Chemistry, University of Cambridge, Cambridge, UK*

MOG pm 03:50 **A Protein-Ligand Binding Assay with Proteomic Potential**; Michael C. Fitzgerald; Graham M. West; Victor Anbalagan; Liangjie Tang; *Duke University, Durham, NC*

MOG pm 04:10 **Temperature Dependent Cooperativity in Donor-Acceptor Substrate Binding to the Human Blood Group Glycosyltransferases**; Glen K Shoemaker[1]; Naoto Soya[1]; Monica M Palcic[2]; John S Klassen [1]; *[1]University of Alberta, Edmonton, Canada; [2]Carlsberg Laboratory, Copenhagen, Denmark*

4:45 – 5:30 pm
AWARD LECTURE
Wells Fargo Theatre

4:45 pm **Receipient of the Award for a Distinguished Contribution in Mass Spectrometry**